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IEEE 802.11 wireless LAN: Past, Present, and Future

A Seminar by Dr. Hossam Fattah

Research Associate

Tuesday, March 4, 2008
12:00-1:30 p.m.
Light lunch will be served (after the talk)
Lecture Hall 143

The rapid proliferation and pervasive usage of wireless LANs based on the IEEE 802.11 standard (or WiFi) has resulted in extending the use of this wireless technology, beyond laptops and PCs, into consumer electronics. Current WiFi technology can support a wider range of media distribution applications such audio streaming, video streaming, and even HDTV broadcast , as evident by recent consumer products such as Apple's iphone and iTV, Sony's location-free TV, and Sling Media's Slingbox. This talk provides an overview of the IEEE 802.11 standard describing its channel access scheme known as Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA), and outlining medium access control (MAC) and Physical (PHY) layer operation. We will explain the differences and common features among the various IEEE 802.11 extensions known as IEEE 802.11a/b/g and more recently 11n. Finally, we present our own vision of what we think the next WiFi technology should look like.

Hossam Fattah is currently a Research associate at the department of electrical engineering at Texas A&M University, Qatar. He obtained his Bachelor degree from Al-Azhar University, Cairo, Egypt in 1995. He obtained his Masters and Ph.D., degrees both in Electrical engineering from the University of Victoria and University of British Columbia, British Columbia, Canada in 2000 and 2003 respectively.

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